

**Test gauge, copper alloy
Class 0.6, NS 160
Model 312.20**

for further approvals
see page 3

Applications

- For gaseous and liquid media that are not highly viscous or crystallising and will not attack copper alloy parts
- Precision measurement in laboratories
- High-accuracy pressure measurement
- Testing of industrial type pressure gauges

Special features

- Knife edge pointer for optimal accuracy of reading
- Precise movement with wear parts of argantan
- Scale ranges from 0 ... 0.6 to 0 ... 600 bar

**Test gauge, model 312.20****Description**

The model 312.20 mechanical test gauge has been specifically designed for the measurement of pressures with high accuracy. With its accuracy class of 0.6, the Bourdon tube pressure gauge is suitable for testing industrial type pressure gauges or for precision measurement in laboratories.

For the respective measuring requirement, a scale range between 0 ... 0.6 and 0 ... 600 bar can be selected.

The model 312.20 is constructed with a case from stainless steel and wetted parts from copper alloy. The instrument meets the requirements of the international industry standard EN 837-1 for Bourdon tube pressure gauges.

The optimal readability of the instrument, with a nominal size of 160 mm, is achieved via a knife edge pointer and a dial with fine divisions. Supported through the optional mirror band scale, the parallax error can be eliminated.







For this instrument, an optional DKD/DAkkS calibration certificate can be generated.

Safe storage and transport is ensured by a transport case (accessory).

Specifications

Model 312.20	
Design	EN 837-1
Nominal size in mm	160
Accuracy class	0.6 Option: ■ 0.25 (scale ranges ≤ 400 bar) ■ Grade 3A per ASME B40.100 (scale ranges ≤ 400 bar)
Scale ranges	0 ... 0.6 bar [0 ... 8.7 psi] to 0 ... 600 bar [0 ... 8,702.3 psi] other units (e.g. psi, kPa) available or all other equivalent vacuum or combined pressure and vacuum ranges
Scale	Single scale Option: Mirror band scale
Pressure limitation	
Steady	Full scale value
Fluctuating	0.9 x full scale value
Short time	1.3 x full scale value
Connection location	■ Lower mount (radial) ■ Lower back mount
Process connection	G ½ B Others on request
Permissible temperature	
Medium	+80 °C [+176 °F] Option: ■ +100 °C [+212 °F] with special soft solder ■ +200 °C [+392 °F] (model 332.50, see data sheet PM 03.06)
Ambient	-20 ... +60 °C [-4 ... +140 °F]
Temperature effect	When the temperature at the measuring system deviates from the reference temperature +20 °C [+68 °F]: ≤ ±0.4 %/10 °C [≤ ±0.4 %/18 °F] of full scale value
Case filling	Without Option: With case filling (model 333.50, see data sheet PM 03.06)
Wetted materials	
Process connection	Copper alloy
Pressure element	< 100 bar: Copper alloy, C-type ≥ 100 bar: Stainless steel 316L, helical type
Non-wetted materials	
Case, bayonet ring	Stainless steel Option: Triangular bezel, polished stainless steel, with clamp
Movement	Copper alloy, wear parts argentan
Dial	Aluminium, white, black lettering
Pointer	Knife edge pointer, aluminium, black
Window	Instrument glass Option: Zero point setting from outside through adjustable dial
Ingress protection per IEC/EN 60529	IP54
Adjustment medium	≤ 25 bar: Gas > 25 bar: Liquid Option: Gas from scale range ≥ 25 bar

Approvals

Logo	Description	Country
	EU declaration of conformity Pressure equipment directive, PS > 200 bar; module A, pressure accessory	European Union
	EAC (option) Pressure equipment directive	Eurasian Economic Community
	GOST (option) Metrology, measurement technology	Russia
-	MTSCHS (option) Permission for commissioning	Kazakhstan
	BelGIM (option) Metrology, measurement technology	Belarus
	UkrSEPRO (option) Metrology, measurement technology	Ukraine
	Uzstandard (option) Metrology, measurement technology	Uzbekistan
-	CPA (option) Metrology, measurement technology	China
-	CRN Safety (e.g. electr. safety, overpressure, ...)	Canada

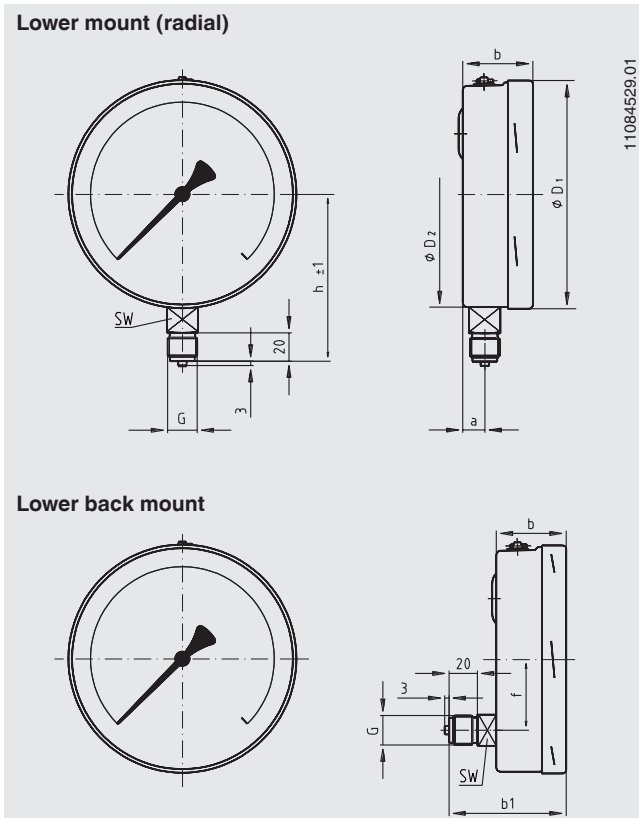
Certificates (option)

- 2.2 test report per EN 10204 (e.g. state-of-the-art manufacturing, material proof, indication accuracy)
- 3.1 inspection certificate per EN 10204 (e.g. indication accuracy)
- DKD/DAkkS certified accuracy

Approvals and certificates, see website

Accessories

- Sealings (model 910.17, see data sheet AC 09.08)
- Panel or surface mounting flange, stainless steel
- Transport case

Dimensions in mm [in]
Standard version


NS	Dimensions in mm [in]									Weight in kg [lbs]
	a	b	b ₁	D ₁	D ₂	f	G	h ±1	SW	
160	15.5 [0.61]	49.5 [1.949] ¹⁾	83 [3.268] ¹⁾	161 [6.339]	159 [6.26]	50 [1.969]	G ½ B	118 [4.646]	22	1.10 [2.947]

1) Plus 16 mm with scale ranges ≥ 100 bar

Process connection per EN 837-1 / 7.3